

ABSTRACT

A visible-light-responsive three-dimensional fine cell-structured photocatalytic filter in accordance with the present invention includes a sponge-like porous structure (B) containing an anatase-type titanium oxide coating formed on a surface of a sponge-like porous structural body (A) which has a porosity of 85 vol% or more. The sponge-like porous structural body (A) is composed of one material selected from the group consisting of one metal selected from the group consisting of (a) to (e): (a) carbon and either or both of silicon and a silicon alloy; (b) silicon carbide and at least one material selected from the group consisting of silicon, a silicon alloy, and carbon; (c) silicon nitride and at least one material selected from the group consisting of silicon, a silicon alloy, carbon, and silicon carbide; (d) carbon; and (e) carbon and one metal selected from the group consisting of titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, ruthenium, rhodium, palladium, silver, platinum, and gold.